

Facility ID: 0448010094 Issuance type: Final State Permit To Operate

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In addition to the terms and conditions, hyperlinks have been inserted into the document so you may more readily access the section of the document you wish to review.

Finally, the term language under "Part II" and before "A. Applicable Emissions Limitations..." has been added to aid in document conversion, and was not part of the original issued permit.

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION

Facility ID: 0448010094 Emissions Unit ID: K001 Issuance type: Final State Permit To Operate

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Part II - Special Terms and Conditions

This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

1. For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.
 - (a) None.
2. For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
 - (a) None.

A. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
K001 - water wash paint booth with infrared oven for coating miscellaneous metal parts using less than 10 gallons per day of coating and a maximum VOC content of 5.38 pounds per gallon of coating as applied.	OAC rule 3745-31-05(A)(3) (PTI 04-1156 issued 3/30/2000)	Visible emissions from the stack serving this emissions unit shall not exceed 0 percent opacity. Particulate emissions (PE) shall not exceed 0.78 pound per day and 0.14 ton per year Volatile organic compound (VOC) emissions shall not exceed 53.8 pounds per day and 9.8 tons per year.
	OAC rule 3745-17-07(A)(1)	See Section A.2.a below.
	OAC rule 3745-17-11(B)(1)	See Section A.2.a below.
	OAC rule 3745-21-09(U)(2)(e)(iii)	Exemption See Section A.2.b below.

2. **Additional Terms and Conditions**
 - (a) The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3). The requirements of OAC rule 3745-21-09(U)(1) do not apply to any miscellaneous metal parts or products coating line that never uses more than 10 gallons per day.

B. Operational Restrictions

1. The permittee shall operate the water curtain whenever this emissions unit is in operation.

C. Monitoring and/or Record Keeping Requirements

1. The permittee shall maintain daily records that document any time periods when the water curtain was not in service when the emissions unit was in operation.
2. The permittee shall collect and record the following information each day for the coating line:
 - a. the name and identification number of each coating employed;
 - b. the volume, in gallons, of each coating employed; and
 - c. the total volume, in gallons, of all of the coatings employed.
3. The permittee shall collect and record the following information for the purpose of determining annual VOC emissions:
 - a. the name and identification of each cleanup material employed;
 - b. the number of gallons of each cleanup material employed;
 - c. the VOC content of each cleanup material, in pounds per gallon;
 - d. the VOC content of each coating, as applied, in pounds per gallon; and

e. the total VOC emissions from all coatings and cleanup materials employed, in tons.

4. The permit to install for this/these emissions unit(s) [K001] was evaluated based on the actual materials and the design parameters of the emissions unit's(s) exhaust system, as specified by the permittee in the permit application. The "Toxic Air Contaminant Statute", ORC 3704.03(F), was applied to this/these emissions unit(s) for each toxic air contaminant listed in OAC rule 3745-114-01, using data from the permit application; and modeling was performed for each toxic air contaminant(s) emitted at over one ton per year using an air dispersion model such as SCREEN 3.0, AERMOD, or ISCST3, or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration result(s) from the approved air dispersion model, was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC), calculated as described in the Ohio EPA guidance document entitled "Review of New Sources of Air Toxic Emissions, Option A", as follows: the exposure limit, expressed as a time-weighted average concentration for a conventional 8-hour workday and a 40-hour workweek, for each toxic compound(s) emitted from the emissions unit(s), (as determined from the raw materials processed and/or coatings or other materials applied) has been documented from one of the following sources and in the following order of preference (TLV was and shall be used, if the chemical is listed):

i. threshold limit value (TLV) from the American Conference of Governmental Industrial Hygienists' (ACGIH) "Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices"; or

ii. STEL (short term exposure limit) or the ceiling value from the American Conference of Governmental Industrial Hygienists' (ACGIH) "Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices"; the STEL or ceiling value is multiplied by 0.737 to convert the 15-minute exposure limit to an equivalent 8-hour TLV.

The TLV is divided by ten to adjust the standard from the working population to the general public (TLV/10).

This standard is/was then adjusted to account for the duration of the exposure or the operating hours of the emissions unit(s), i.e., "X" hours per day and "Y" days per week, from that of 8 hours per day and 5 days per week. The resulting calculation was (and shall be) used to determine the Maximum Acceptable Ground-Level Concentration (MAGLC):

$$TLV/10 \times 8/X \times 5/Y = 4 TLV/XY = MAGLC$$

The following summarizes the results of dispersion modeling for the significant toxic contaminants (emitted at 1 or more tons/year) or "worst case" toxic contaminant(s):

Toxic Contaminant: Toluene

TLV (mg/m3): 188

Maximum Hourly Emission Rate (lbs/hr): 0.46

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 29

MAGLC (ug/m3): 4,500

Toxic Contaminant: Xylene

TLV (mg/m3): 434

Maximum Hourly Emission Rate (lbs/hr): 0.53

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 33

MAGLC (ug/m3): 10,000

Toxic Contaminant: Methyl ethyl ketone

TLV (mg/m3): 590

Maximum Hourly Emission Rate (lbs/hr): 0.57

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 37

MAGLC (ug/m3): 14,000

Toxic Contaminant: Cyclohexanone

TLV (mg/m3): 96.3

Maximum Hourly Emission Rate (lbs/hr): 0.57

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 37

MAGLC (ug/m3): 2,300

Toxic Contaminant: n-Butyl acetate

TLV (mg/m3): 713

Maximum Hourly Emission Rate (lbs/hr): 0.57

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 37

MAGLC (ug/m3): 17,000

The permittee, has demonstrated that emissions of toluene, xylene, methyl ethyl ketone, cyclohexanone, and n-Butyl acetate, from emissions unit(s) K001, is calculated to be less than eighty per cent of the maximum acceptable ground level concentration (MAGLC); any new raw material or processing agent shall not be applied without evaluating each component toxic air contaminant in accordance with the "Toxic Air Contaminant Statute", ORC 3704.03(F).

5. Prior to making any physical changes to or changes in the method of operation of the emissions unit(s), that could impact the parameters or values that were used in the predicted 1-hour maximum ground-level concentration", the permittee shall re-model the change(s) to demonstrate that the MAGLC has not been exceeded. Changes that can affect the parameters/values used in determining the 1-hour maximum ground-level concentration include, but are not limited to, the following:

a. changes in the composition of the materials used or the use of new materials, that would result in the emission of a new toxic air contaminant with a lower Threshold Limit Value (TLV) than the lowest TLV previously modeled;

b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any toxic air contaminant listed in OAC rule 3745-114-01, that was modeled from the initial (or last) application; and

c. physical changes to the emissions unit(s) or its/their exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the "Toxic Air Contaminant Statute" will be satisfied for the above changes, the

Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01 solely due to a non-restrictive change to a parameter or process operation, where compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), has been documented. If the change(s) meet(s) the definition of a "modification" or if a new toxic is emitted, or the modeled toxic(s) is/are expected to exceed the previous modeled level(s), then the permittee shall apply for and obtain a final permit-to-install prior to the change. The Director may consider any significant departure from the operations of the emissions unit, described in the permit-to-install application, as a modification that results in greater emissions than the emissions rate modeled to determine the ground level concentration; and may require the permittee to submit a permit-to-install application for the increased emissions.

6. The permittee shall collect, record, and retain the following information for each toxic evaluation conducted to determine compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F):
 - a. a description of the parameters/values used in each compliance demonstration and the parameters or values changed for any re-evaluation of the toxic(s) modeled (the composition of materials, new toxic contaminants emitted, change in stack/exhaust parameters, etc.);
 - b. the Maximum Acceptable Ground-Level Concentration (MAGLC) for each significant toxic contaminant or worst-case contaminant, calculated in accordance with the "Toxic Air Contaminant Statute", ORC 3704.03(F);
 - c. a copy of the computer model run(s), that established the predicted 1-hour maximum ground-level concentration that demonstrated the emissions unit(s) to be in compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), initially and for each change that requires re-evaluation of the toxic air contaminant emissions; and
 - d. the documentation of the initial evaluation of compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), and documentation of any determination that was conducted to re-evaluate compliance due to a change made to the emissions unit(s) or the materials applied.
7. The permittee shall maintain a record of any change made to a parameter or value used in the dispersion model, used to demonstrate compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), through the predicted 1-hour maximum ground-level concentration. The record shall include the date and reason(s) for the change and if the change would increase the ground-level concentration.

D. Reporting Requirements

1. The permittee shall notify the Toledo Division of Environmental Services in writing of any daily record showing that the water curtain was not in service when the emissions unit was in operation. The notification shall include a copy of such record and shall be sent to the Toledo Division of Environmental Services within 45 days after the event occurs.
2. The permittee shall notify the Toledo Division of Environmental Services in writing of any daily record showing that the coating line employs more than 10 gallons per day of coating. The notification shall include a copy of such record and shall be sent to the Toledo Division of Environmental Services within 45 days after the exceedance occurs.
3. The permittee shall also submit annual reports which specify the total VOC emissions from this emissions unit for the previous calendar year. These reports shall be submitted by January 31 of each year.
4. The permittee shall submit annual reports to the appropriate Ohio EPA District Office or local air agency, documenting any changes made to a parameter or value used in the dispersion model, that was used to demonstrate compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), through the predicted 1-hour maximum ground-level concentration. If no changes to the emissions unit(s) or the exhaust stack have been made, then the report shall include a statement to this effect. This report shall be postmarked or delivered no later than January 31 following the end of each calendar year.

E. Testing Requirements

1. Compliance with the emission limitations in the terms and conditions of this permit shall be determined in accordance with the following methods:
Emissions Limitation:

Visible emissions from the stack serving this emissions unit shall not exceed 0 percent opacity.

Applicable Compliance Method:

Compliance shall be demonstrated based upon the monitoring and record keeping requirements specified in section C.1. If required, the permittee shall also demonstrate compliance with this emissions limitation through visible emissions observations performed in accordance with the methods and procedures specified in OAC rule 3745-17-03(B)(1).

Emissions Limitation:

PE shall not exceed 0.78 pound per day.

Applicable Compliance Method:

Compliance may be demonstrated by the following one-time calculation. Multiply the maximum coating usage (10 gal/day) by the maximum coating solids content (5.58 lb/gal solids), multiply by an estimated worse case percentage transfer efficiency (0.30), and multiply by one minus the percentage control efficiency (1-0.98) = 0.33 pound per day.

If required, the permittee shall demonstrate compliance with this emissions limitation in accordance with the methods and procedures specified in OAC rule 3745-17-03(B)(10).

Emissions Limitation:

PE shall not exceed 0.14 ton per year.

Applicable Compliance Method:

Compliance with this emissions limitation may be demonstrated by the following one-time calculation. Multiply the allowable daily particulate emission limitation (0.78 lb/day) by 365 days per year and divide by 2000 pounds per ton.

Emissions Limitation:

VOC emissions shall not exceed 53.8 pounds per day.

Applicable Compliance Method:

Compliance may be demonstrated by the following one-time calculation. Multiply the maximum coating usage rate (10 gal/day) by the maximum VOC content of coating as applied (5.38 lb/gal).

If required, the permittee shall also demonstrate compliance with this emissions limitation in accordance with the methods and procedures specified in OAC rule 3745-21-09(B) and OAC rule 3745-21-10. Formulation data or USEPA Method 24 shall be used to determine the volatile organic compound contents of the coatings and cleanup materials.

Emissions Limitation:

VOC emissions shall not exceed 9.8 tons per year.

Applicable Compliance Method:

The annual emission limitation reflects the potential to emit for this emissions unit. Compliance with this emissions limitation may be demonstrated by the following one-time calculation. Multiply the potential daily VOC emissions (53.8 lb/day) by 365 days per year and divide by 2000 pounds per ton.

F. **Miscellaneous Requirements**

1. None